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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/759,279	01/20/2004	Shinichi Ishizuka	Q79062	6849
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/759,279

Applicant(s)

ISHIZUKA, SHINICHI

Examiner

Jeff Piziali

Art Unit

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2008 and 28 April 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 1-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 09/377,405.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 09/377,405, filed on 20 August 1999.

Drawings

2. The drawings have not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the figures.

Specification

3. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Election/Restrictions

4. *Applicant's election with traverse of Species I (claims 1-10)* in the reply filed on 1 October 2008 is acknowledged. The traversal is apparently on the ground(s) (see Pages 1-2 of the Election filed 1 October 2008):

Applicants submit that claims 1-10 are readable on Species I, including claims 1-6 which Applicants submit are generic. Applicants note that while claims 7-10 appear to be directed to Species I, they are not limited to drive lines connectable only to a drive source or a second reset voltage.

This is not found persuasive because the Election does not distinctly and specifically point out supposed errors in the election of species requirement.

Arguably the Applicant may be traversing due to the Restriction Requirement (mailed 4 August 2008) stating, "*claims 1 and 2 appear to be generic.*" The Applicant appears to feel claims 3-6 are additionally generic to the restricted species.

If this is indeed the ground of the traversal, the examiner respectfully disagrees.

Claims 3 and 4 both state, "*drive lines are connectable to either said drive source or a second reset voltage source.*"

Taking "*either*" to commonly mean, "*one or the other of two*" results in claims 3 and 4 being readable on Species I, and therefor not generic.

Regardless, no arguments have been presented suggesting any nonelected claims/species have been improperly restricted.

The requirement is still deemed proper and is therefore made FINAL.

5. *Claims 10-19 are withdrawn* from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim.

Applicant timely traversed the restriction (election) requirement in the reply filed on 1 October 2008.

6. This application contains claims 10-19 drawn to a species nonelected with traverse in the reply filed on 1 October 2008. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

9. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

An omitted structural cooperative relationship results from the claimed subject matter:

"either one of said positive electrode lines or said negative electrode lines are employed as scan lines" (line 3). For example:

In the Election filed on 1 October 2008, the Applicant argues the expression, "*drive lines are connectable to either said drive source or a second reset voltage source*" is "*not limited to drive lines connectable only to a drive source or a second reset voltage.*"

In light of such arguments, it would not be clear to one having ordinary skill in the art whether the claimed subject matter is intended to mean the positive electrode lines are employed as scan lines; or rather the negative electrode lines are employed as scan lines; or rather some other unclaimed element(s) is/are employed as scan lines.

An omitted structural cooperative relationship results from the claimed subject matter: "*drive lines*" (line 4); "*desired drive lines*" (line 6); and "*drive lines*" (line 8). For example:

It would not be clear to one having ordinary skill in the art whether a single identical set of "*drive lines*" are intended to be claimed; or rather whether distinct sets of "*drive lines*" are intended to be claimed.

An omitted structural cooperative relationship results from the claimed subject matter: "*after each scan line is complete*" (line 13). For example:

It would be unclear to an artisan when or how a scan line's "*completeness*" is to be determined and judged.

10. Claim 1 recites the limitation "*the other*" (line 4). There is insufficient antecedent basis for this limitation in the claim. For example: The other what?

11. Claim 1 recites the limitation "***while scanning the scan lines***" (line 6). There is insufficient antecedent basis for this limitation in the claim. For example: Where is the antecedent basis for scanning the scan lines?

12. Claim 1 recites the limitation "***after each scan line is complete***" (line 13). There is insufficient antecedent basis for this limitation in the claim. For example: Complete doing what?

13. Claim 1 recites the limitation "***the following scan line***" (lines 13 and 15). There is insufficient antecedent basis for this limitation in the claim. For example: Following what?

14. Claim 1 recites the limitation "***the reset period***" (line 15). There is insufficient antecedent basis for this limitation in the claim. For example: Which one of the earlier claimed reset periods?

15. Claims 2-10 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

An omitted structural cooperative relationship results from the claimed subject matter: "***a light-emitting display***" (line 1 of claims 2-10) and "***a light-emitting display***" (line 1 of claim 1).
For example:

It would be unclear to an artisan whether a single "*light-emitting display*" is intended to be claimed; or rather whether a plurality of distinct "*light-emitting displays*" are intended to be claimed.

16. Claim 2 recites the limitation "*the difference*" (line 2). There is insufficient antecedent basis for this limitation in the claim.

17. Claim 2 recites the limitation "*the light emission threshold voltage*" (line 3). There is insufficient antecedent basis for this limitation in the claim.

18. Claim 2 recites the limitation "*said light-emitting element*" (line 3). There is insufficient antecedent basis for this limitation in the claim.

19. Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

An omitted structural cooperative relationship results from the claimed subject matter: "*said drive lines are connectable to either said drive source or a second reset voltage source*" (line 2). For example:

In the Election filed on 1 October 2008, the Applicant argues the expression, "*drive lines are connectable to either said drive source or a second reset voltage source*" is "*not limited to drive lines connectable only to a drive source or a second reset voltage.*"

In light of such arguments, it would not be clear to one having ordinary skill in the art whether the claimed subject matter is intended to mean *said drive lines are connectable to said drive source*; or rather *said drive lines are connectable to a second reset voltage source*; or rather *said drive lines are connectable to some other unclaimed element(s)*.

An omitted structural cooperative relationship results from the claimed subject matter: *"said scan lines are connectable to either a first reset voltage source for providing said first reset voltage or a reverse bias voltage source"* (line 3). For example:

In the Election filed on 1 October 2008, the Applicant argues the expression, *"drive lines are connectable to either said drive source or a second reset voltage source"* is *"not limited to drive lines connectable only to a drive source or a second reset voltage."*

In light of such arguments, it would not be clear to one having ordinary skill in the art whether the claimed subject matter is intended to mean *said scan lines are connectable to a first reset voltage source*; or rather *said scan lines are connectable to a reverse bias voltage source*; or rather *said scan lines are connectable to some other unclaimed element(s)*.

20. Claim 3 recites the limitation *"said drive source"* (line 2). There is insufficient antecedent basis for this limitation in the claim.

21. Claim 3 recites the limitation *"a second reset voltage"* (line 2). There is insufficient antecedent basis for this limitation in the claim. For example:

In light of the Applicant's "*either*" subject matter arguments, it would be unclear whether there exists any antecedent basis for "*a first reset voltage source*."

22. Claim 3 is indefinite where it specifies "*predetermined reverse bias potential*" (in line 5), since "*predetermined*," according to applicant's definition, merely means "*determined beforehand*." For example, see *Joseph E. Seagram & Sons, Inc. V. Marzall*, Comr. Pats., 84 USPQ 180 (Court of Appeals, District of Columbia).

23. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

An omitted structural cooperative relationship results from the claimed subject matter: "*said drive lines are connectable to either said drive source or a second reset voltage source*" (line 2). For example:

In the Election filed on 1 October 2008, the Applicant argues the expression, "*drive lines are connectable to either said drive source or a second reset voltage source*" is "*not limited to drive lines connectable only to a drive source or a second reset voltage*."

In light of such arguments, it would not be clear to one having ordinary skill in the art whether the claimed subject matter is intended to mean *said drive lines are connectable to said drive source*; or rather *said drive lines are connectable to a second reset voltage source*; or rather *said drive lines are connectable to some other unclaimed element(s)*.

An omitted structural cooperative relationship results from the claimed subject matter: ***"said scan lines are connectable to either a first reset voltage source for providing said first reset voltage or a reverse bias voltage source"*** (line 3). For example:

In the Election filed on 1 October 2008, the Applicant argues the expression, *"drive lines are connectable to either said drive source or a second reset voltage source"* is *"not limited to drive lines connectable only to a drive source or a second reset voltage."*

In light of such arguments, it would not be clear to one having ordinary skill in the art whether the claimed subject matter is intended to mean *said scan lines are connectable to a first reset voltage source*; or rather *said scan lines are connectable to a reverse bias voltage source*; or rather *said scan lines are connectable to some other unclaimed element(s)*.

24. Claim 4 recites the limitation ***"said drive source"*** (line 2). There is insufficient antecedent basis for this limitation in the claim.

25. Claim 4 recites the limitation ***"a second reset voltage"*** (line 2). There is insufficient antecedent basis for this limitation in the claim. For example:

In light of the Applicant's ***"either"*** subject matter arguments, it would be unclear whether there exists any antecedent basis for ***"a first reset voltage source."***

26. Claim 4 is indefinite where it specifies ***"predetermined reverse bias potential"*** (in line 5), since ***"predetermined,"*** according to applicant's definition, merely means *"determined*

beforehand." For example, see *Joseph E. Seagram & Sons, Inc. V. Marzall*, Comr. Pats., 84 USPQ 180 (Court of Appeals, District of Columbia).

27. Claim 7 recites the limitation "*said reverse bias voltage sources*" (line 2). There is insufficient antecedent basis for this limitation in the claim.

28. Claim 7 recites the limitation "*the voltage value*" (line 2). There is insufficient antecedent basis for this limitation in the claim.

29. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

An omitted structural cooperative relationship results from the claimed subject matter: "*light-emitting elements*" (claim 7, line 4) and "*light-emitting elements*" (claim 1, line 1). For example:

It would be unclear to an artisan whether a single set of "*light-emitting elements*" is intended to be claimed; or rather whether a plurality of distinct sets of "*light-emitting elements*" are intended to be claimed.

An omitted structural cooperative relationship results from the claimed subject matter: "*said reverse bias voltage sources are to have a same voltage as the voltage value determined*"

by subtracting said second reset voltage from light emission specifying voltages of light-emitting elements" (line 2). For example:

It would be unclear to an artisan a single, identical "**voltage value**" is intended to be claimed; or rather whether a plurality of distinct "**voltage values**" are intended to be claimed.

30. Claim 8 recites the limitation "**said reverse bias voltage sources**" (line 2). There is insufficient antecedent basis for this limitation in the claim.

31. Claim 8 recites the limitation "**the voltage value**" (line 2). There is insufficient antecedent basis for this limitation in the claim.

32. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

An omitted structural cooperative relationship results from the claimed subject matter: "**light-emitting elements**" (claim 8, line 4) and "**light-emitting elements**" (claim 1, line 1). For example:

It would be unclear to an artisan whether a single set of "**light-emitting elements**" is intended to be claimed; or rather whether a plurality of distinct sets of "**light-emitting elements**" are intended to be claimed.

An omitted structural cooperative relationship results from the claimed subject matter: *"said reverse bias voltage sources are to have a same voltage as the voltage value determined by subtraction said second reset voltage from light emission specifying voltages of light-emitting elements"* (line 2). For example:

It would be unclear to an artisan a single, identical "*voltage value*" is intended to be claimed; or rather whether a plurality of distinct "*voltage values*" are intended to be claimed.

33. Claim 9 recites the limitation "*said reverse bias voltage sources*" (line 2). There is insufficient antecedent basis for this limitation in the claim.

34. Claim 9 recites the limitation "*the voltage value*" (line 2). There is insufficient antecedent basis for this limitation in the claim.

35. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

An omitted structural cooperative relationship results from the claimed subject matter: "*light-emitting elements*" (claim 9, line 4) and "*light-emitting elements*" (claim 1, line 1). For example:

It would be unclear to an artisan whether a single set of "*light-emitting elements*" is intended to be claimed; or rather whether a plurality of distinct sets of "*light-emitting elements*" are intended to be claimed.

An omitted structural cooperative relationship results from the claimed subject matter: *"said reverse bias voltage sources are to have a same voltage as the voltage value determined by subtracting said second reset voltage from light emission specifying voltages of light-emitting elements"* (line 2). For example:

It would be unclear to an artisan a single, identical "**voltage value**" is intended to be claimed; or rather whether a plurality of distinct "**voltage values**" are intended to be claimed.

36. Claim 10 recites the limitation "*said reverse bias voltage sources*" (line 2). There is insufficient antecedent basis for this limitation in the claim.

37. Claim 10 recites the limitation "*the voltage value*" (line 2). There is insufficient antecedent basis for this limitation in the claim.

38. Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

An omitted structural cooperative relationship results from the claimed subject matter: "*light-emitting elements*" (claim 10, line 4) and "*light-emitting elements*" (claim 1, line 1). For example:

It would be unclear to an artisan whether a single set of "*light-emitting elements*" is intended to be claimed; or rather whether a plurality of distinct sets of "*light-emitting elements*" are intended to be claimed.

An omitted structural cooperative relationship results from the claimed subject matter: "*said reverse bias voltage sources are to have a same voltage as the voltage value determined by subtracting said second reset voltage from light emission specifying voltages of light-emitting elements*" (line 2). For example:

It would be unclear to an artisan a single, identical "*voltage value*" is intended to be claimed; or rather whether a plurality of distinct "*voltage values*" are intended to be claimed.

39. The claims are rejected under 35 U.S.C. 112, second paragraph, as being indefinite.

As a courtesy to the Applicant, the examiner has attempted to also make rejections over prior art -- based on the examiner's best guess interpretations of the invention that the Applicant is intending to claim.

However, the indefinite nature of the claimed subject matter naturally hinders the Office's ability to search and examine the application.

Any instantly distinguishing features and subject matter that the Applicant considers to be absent from the cited prior art is more than likely a result of the indefinite nature of the claims.

The Applicant is respectfully requested to correct the indefinite nature of the claims, which should going forward result in a more precise search and examination.

Claim Rejections - 35 USC § 103

40. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

41. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Norman et al (US 5,719,589 A)* in view of *Okuda et al (JP 09232074 A)* [*with Okuda et al (US 5,844,368 A) serving as an English translation of the Japanese patent document for the purposes of this Office action*].

Regarding claim 1, *Norman* discloses a driving method of a light-emitting display [*Fig. 1; 12*] in which light-emitting elements [*Fig. 1; 15*] are connected to intersections of positive electrode lines [*Fig. 3; 14*] and negative electrode lines [*Fig. 3; 13*] arranged in a matrix, either one of said positive electrode lines or said negative electrode lines are employed as scan lines [*Fig. 3; Rows #3-32*] with the other employed as drive lines [*Fig. 3; Columns #3-64*], said driving method comprising:

while scanning [*Fig. 3; via 42*] the scan lines,

connecting [*Fig. 3; via 36*] drive sources [*Fig. 3; 37*] to desired drive lines [*Fig. 3; Columns #3-64*] in synchronization with the scanning,

whereby allowing the light-emitting elements connected to the intersections of the scan lines and drive lines to emit light (*see Column 7, Lines 35-52*);

during each of a plurality of reset periods [*two row-by-row driving cycles wherein Rows #3-#32 are all unselected*],

applying a first reset voltage [*Fig. 3; V_R*] simultaneously to all of said scan lines [*Fig. 3; Rows #3-#32*] and applying a second reset voltage [*Fig. 3; V_C*] that is greater than said first reset voltage to all of said drive lines [*Fig. 3; Columns #3-64*],

wherein a reset period [*the second of the two aforementioned row-by-row driving cycles*] of the plurality of reset periods begins after each scan line is complete [*the first of the two aforementioned row-by-row driving cycles wherein Rows #3-#32 are "completely" supplied with V_R*] and ends prior to scanning the following scan line [*wherein during a third row-by-row driving cycle, Row #4 (which physically follows row #3 or row #5, depending on one's perspective) is scanned*]; and

scanning the following scan line [*Fig. 3; Row #4*] immediately after the reset period in which the first reset voltage is applied to all of said scan lines and the second reset voltage is applied to all of said drive lines (*see the entire document, including Column 5, Line 46 - Column 8, Line 53*).

Should it be shown **Norman** neglects teaching the reset period subject matter with sufficient specificity:

Okuda discloses a driving method of a light-emitting display [*Fig. 2*] in which light-emitting elements [*Fig. 2; E*] are connected to intersections of positive electrode lines [*Fig. 2; A*] and negative electrode lines [*Fig. 2; B*] arranged in a matrix,

either one of said positive electrode lines or said negative electrode lines are employed as scan lines [Fig. 2; B] with the other employed as drive lines [Fig. 2; A],

said driving method comprising:

while scanning [Fig. 2; via 1] the scan lines,

connecting [Fig. 2; via 6] drive sources [Fig. 2; 2] to desired drive lines [Fig. 2; A] in synchronization with the scanning,

whereby allowing the light-emitting elements connected to the intersections of the scan lines and drive lines to emit light;

during each of a plurality of reset periods [Fig. 2],

applying a first reset voltage [Fig. 2; ground within 1] simultaneously to all of said scan lines and applying a second reset voltage [Fig. 2; ground within 3] that is equal to said first reset voltage to all of said drive lines,

wherein a reset period of the plurality of reset periods begins after each scan line is complete [Fig. 1] and ends prior to scanning the following scan line [Figs. 3-4]; and

scanning the following scan line immediately after [Figs. 3-4] the reset period in which the first reset voltage is applied to all of said scan lines and the second reset voltage is applied to all of said drive lines (*see the entire document, including Column 4, Line 40 - Column 6, Line 42*).

Norman and **Okuda** are analogous art, because they are from the shared inventive field of driving methods for light emitting displays.

Therefore, it would have been obvious to one having ordinary skill in the art to substitute **Okuda's** full display resetting technique (*i.e., simultaneously resetting all the scan and data lines*) in the place of **Norman's** partial display resetting technique (*i.e., simultaneously resetting all the unselected scan and data lines*); so as to perform a reset before shifting to the next scan and thus, when the scan is switched to the next scan line, luminous elements on the switched scan line can emit light instantly [**Okuda** : Column 6, Lines 27-32].

It would have been obvious to one of ordinary skill in the art at the time of invention because all the claimed elements were known in the prior art and one skilled in the art could have combined a full display resetting technique (*e.g., simultaneously resetting all the scan and data lines*) with a partial display resetting technique (*e.g., simultaneously resetting all the unselected scan and data lines*) as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

It would have been obvious to one of ordinary skill in the art at the time of invention, because the substitution of one known a full display resetting technique (*e.g., simultaneously resetting all the scan and data lines*) for a partial display resetting technique (*e.g., simultaneously resetting all the unselected scan and data lines*) would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

It would have been obvious to one of ordinary skill in the art at the time of invention, because the technique for improving [by replacing/combining a partial display resetting technique (*e.g., simultaneously resetting all the unselected scan and data lines*) with a full

display resetting technique (*e.g., simultaneously resetting all the scan and data lines*)] this particular class of driving methods for light emitting display devices was part of the ordinary skill in the art, in view of the teaching of the technique for improvement in other situations.

It would have been obvious to one of ordinary skill in the art at the time of invention, because this particular known partial display resetting technique (*e.g., simultaneously resetting all the unselected scan and data lines*) was recognized as part of the ordinary capabilities of one skilled in the art.

It would have been obvious to one of ordinary skill in the art at the time of invention, because a person of ordinary skill has good reason to pursue the known options within his or her technical grasp [i.e., replacing/combining a partial display resetting technique (*e.g., simultaneously resetting all the unselected scan and data lines*) with a full display resetting technique (*e.g., simultaneously resetting all the scan and data lines*)]. If this leads to the anticipated success, it is likely the product is not of innovation but of ordinary skill and common sense.

It would have been obvious to one of ordinary skill in the art at the time of invention, because design incentives or market forces provided a reason to make full display resetting technique (*e.g., simultaneously resetting all the scan and data lines*) adaptation, and the invention resulted from application of the prior knowledge in a predictable manner.

See KSR International Co. v. Teleflex Inc., et al., Docket No. 04-1350 (U.S. 30 April 2007).

Regarding claim 2, **Norman** discloses the difference between said second reset voltage and said first reset voltage is set to be lower than the light emission threshold voltage of said light-emitting element (*see Column 7, Lines 3-18*).

Regarding claim 3, **Norman** discloses said drive lines are connectable to either said drive source [*Fig. 3; 37*] or a second reset voltage source [*Fig. 3; 38, V_C*] for providing said second reset voltage, said scan lines are connectable to either a first reset voltage source [*Fig. 3; V_R*] for providing said first reset voltage or a reverse bias voltage source [*Fig. 3; 45, 48*] for providing a predetermined reverse bias potential (*see Column 7, Line 3 - Column 8, Line 53*).

Regarding claim 4, this claim is rejected by the reasoning applied in rejecting claim 3.

Regarding claim 5, **Norman** discloses said first reset voltage source provides a ground potential (*see Column 7, Lines 3-34 and Column 8, Lines 1-36*).

Regarding claim 6, this claim is rejected by the reasoning applied in rejecting claim 5.

Regarding claim 7, **Norman** discloses said reverse bias voltage sources are to have a same voltage as the voltage value determined by subtracting said second reset voltage from light emission specifying voltages of light-emitting elements (*see Column 8, Lines 1-36*).

Regarding claim 8, this claim is rejected by the reasoning applied in rejecting claim 7.

Regarding claim 9, this claim is rejected by the reasoning applied in rejecting claim 7.

Regarding claim 10, this claim is rejected by the reasoning applied in rejecting claim 7.

42. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Okuda et al (JP 09232074 A)* [with *Okuda et al (US 5,844,368 A)* serving as an English translation of the Japanese patent document for the purposes of this Office action] in view of *Norman et al (US 5,719,589 A)*.

Okuda discloses a driving method of a light-emitting display [Fig. 2] in which light-emitting elements [Fig. 2; E] are connected to intersections of positive electrode lines [Fig. 2; A] and negative electrode lines [Fig. 2; B] arranged in a matrix,

either one of said positive electrode lines or said negative electrode lines are employed as scan lines [Fig. 2; B] with the other employed as drive lines [Fig. 2; A],

said driving method comprising:

while scanning [Fig. 2; via 1] the scan lines,

connecting [Fig. 2; via 6] drive sources [Fig. 2; 2] to desired drive lines [Fig. 2; A] in synchronization with the scanning,

whereby allowing the light-emitting elements connected to the intersections of the scan lines and drive lines to emit light;

during each of a plurality of reset periods [Fig. 2],

applying a first reset voltage [Fig. 2; ground within 1] simultaneously to all of said scan lines and applying a second reset voltage [Fig. 2; ground within 3] that is equal to said first reset voltage to all of said drive lines,

wherein a reset period of the plurality of reset periods begins after each scan line is complete [Fig. 1] and ends prior to scanning the following scan line [Figs. 3-4]; and

scanning the following scan line immediately after [Figs. 3-4] the reset period in which the first reset voltage is applied to all of said scan lines and the second reset voltage is applied to all of said drive lines (see the entire document, including Column 4, Line 40 - Column 6, Line 42).

Okuda arguably does not expressly disclose the second reset voltage being greater than the first reset voltage.

However, **Norman** explicitly discloses periodically applying a first reset voltage [Fig. 3; V_R -- i.e. "row reset potential"] to scan lines/rows [Fig. 3; 13], and applying a second reset voltage [Fig. 3; V_C -- i.e. "column reset potential"] to drive lines/column [Fig. 3; 14] (see Column 6, Line 34 - Column 7, Line 18).

Norman explains the aforementioned row rest potential [Fig. 3; V_R] may be an open terminal/circuit (see Column 6, Lines 58-61). Therefore, any non-zero voltage could be used as **Norman's** column rest potential [Fig. 3; V_C] and read on the instantly claimed subject matter, and wherein -33 volts is given as one non-limiting example by **Norman** (see Column 8, Line 15).

Furthermore, although *Norman* prefers using rest potentials to place unselected light emitting diodes [Fig. 3; 15] in a "reverse bias condition" (see Column 7, Line 30), *Norman* makes it plain the invention's only limiting factor is "*the column rest potential being below a level where individual light emitting diodes of the plurality of light emitting diodes will turn ON*" (see the entire document, including Column 10, Lines 1-4).

Therefore, taking the row rest potential again to be an open terminal/circuit, *Norman's* apparatus provides full functionality in an alternate embodiment (compared to the aforementioned $V_C = -33$ volts example) wherein the column rest potential is any positive voltage that doesn't turn on the light emitting diodes, resulting in the second reset voltage being greater than the first reset voltage.

Norman and *Okuda* are analogous art, because they are from the shared inventive field of driving methods for light emitting displays.

Therefore, it would have been obvious to one having ordinary skill in the art to substitute *Norman's* non-equal resetting voltage relationship (wherein the second reset voltage is greater than the first reset voltage) in the place of *Okuda's* equal resetting voltage relationship (wherein the second reset voltage is equal to the first reset voltage); so as to rapidly remove display charges and/or obtain a high quality image with relatively constant light [*Norman* : Column 2, Lines 15-36].

It would have been obvious to one of ordinary skill in the art at the time of invention because all the claimed elements were known in the prior art and one skilled in the art could have combined a non-equal resetting voltage relationship (*e.g., wherein the second reset voltage is greater than the first reset voltage*) with an equal resetting voltage relationship (*e.g., wherein the second reset voltage is equal to the first reset voltage*) as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

It would have been obvious to one of ordinary skill in the art at the time of invention, because the substitution of one known non-equal resetting voltage relationship (*e.g., wherein the second reset voltage is greater than the first reset voltage*) for an equal resetting voltage relationship (*e.g., wherein the second reset voltage is equal to the first reset voltage*) would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

It would have been obvious to one of ordinary skill in the art at the time of invention, because the technique for improving (by replacing/combining an equal resetting voltage relationship (*e.g., wherein the second reset voltage is equal to the first reset voltage*) with a non-equal resetting voltage relationship (*e.g., wherein the second reset voltage is greater than the first reset voltage*)] this particular class of driving methods for light emitting display devices was part of the ordinary skill in the art, in view of the teaching of the technique for improvement in other situations.

It would have been obvious to one of ordinary skill in the art at the time of invention, because this particular known non-equal resetting voltage relationship (*e.g., wherein the second*

reset voltage is greater than the first reset voltage) technique was recognized as part of the ordinary capabilities of one skilled in the art.

It would have been obvious to one of ordinary skill in the art at the time of invention, because a person of ordinary skill has good reason to pursue the known options within his or her technical grasp [i.e., replacing/combining an equal resetting voltage relationship (e.g., *wherein the second reset voltage is equal to the first reset voltage*) with a non-equal resetting voltage relationship (e.g., *wherein the second reset voltage is greater than the first reset voltage*)]. If this leads to the anticipated success, it is likely the product is not of innovation but of ordinary skill and common sense.

It would have been obvious to one of ordinary skill in the art at the time of invention, because design incentives or market forces provided a reason to make a non-equal resetting voltage relationship (e.g., *wherein the second reset voltage is greater than the first reset voltage*) adaptation, and the invention resulted from application of the prior knowledge in a predictable manner.

See KSR International Co. v. Teleflex Inc., et al., Docket No. 04-1350 (U.S. 30 April 2007).

Regarding claim 2, **Okuda** discloses the difference between said second reset voltage and said first reset voltage is set to be lower than the light emission threshold voltage of said light-emitting element (*see Column 4, Line 40 - Column 6, Line 42*).

Regarding claim 3, **Okuda** discloses said drive lines are connectable to either said drive source [Fig. 2; 2] or a second reset voltage source [Fig. 2; 7] for providing said second reset voltage, said scan lines are connectable to either a first reset voltage source [Fig. 2; ground within 1] for providing said first reset voltage or a reverse bias voltage source [Fig. 3; Vcc] for providing a predetermined reverse bias potential [Fig. 3; 10V] (see Column 4, Line 40 - Column 6, Line 42).

Regarding claim 4, this claim is rejected by the reasoning applied in rejecting claim 3.

Regarding claim 5, **Okuda** discloses said first reset voltage source provides a ground potential (see Column 4, Line 40 - Column 6, Line 42).

Regarding claim 6, this claim is rejected by the reasoning applied in rejecting claim 5.

Regarding claim 7, **Okuda** discloses said reverse bias voltage sources are to have a same voltage as the voltage value determined by subtracting said second reset voltage from light emission specifying voltages of light-emitting elements (see Column 4, Line 40 - Column 6, Line 42).

Regarding claim 8, this claim is rejected by the reasoning applied in rejecting claim 7.

Regarding claim 9, this claim is rejected by the reasoning applied in rejecting claim 7.

Regarding claim 10, this claim is rejected by the reasoning applied in rejecting claim 7.

Response to Arguments

43. Applicant's arguments filed 28 April 2008 have been fully considered but they are not persuasive.

The Applicant contends (see Page 8 of the Response filed 28 April 2008):

According to the method of claim 1, there is a reset period after each scan line, during which a first reset voltage is applied simultaneously to all scan lines. In contrast, as noted above, Norman teaches that while one row is scanned, a row rest potential is applied to the other rows. In other words, even assuming that the period after a first row is scanned is a reset period, during that rest period the row rest potential is not applied to all rows, but rather is only applied to the rows not currently being scanned.

Further, Norman fails to disclose or suggest that during such a reset period after each scan line, a second reset voltage is applied to all drive lines. In the Office Action, the Examiner also refers to the possibility, in the Norman method, that the video data input signal is lost or disconnected, at which time there would be no selected rows or columns. The Examiner erroneously equates such an event to applying a first reset voltage to all scan lines and a second reset voltage to all drive lines. However, even assuming that the loss of a video data input signal were to result in a reset period during which a first reset voltage were applied to all scan lines and a second reset voltage were applied to all drive

lines, this does not begin after each scan lines is complete. The Examiner notes that such losses are "an unfortunately inherent fact of life for all practical purposes of transmitting video/image data". However, regardless of the frequency of such losses, such an event does not occur after each scan line is scanned.

However, the examiner respectfully disagrees. **Norman** discloses during each of a plurality of reset periods [*two row-by-row driving cycles wherein Rows #3-#32 are all unselected*],

applying a first reset voltage [*Fig. 3; V_R*] simultaneously to all of said scan lines [*Fig. 3; Rows #3-#32*] and applying a second reset voltage [*Fig. 3; V_C*] that is greater than said first reset voltage to all of said drive lines [*Fig. 3; Columns #3-64*],

wherein a reset period [*the second of the two aforementioned row-by-row driving cycles*] of the plurality of reset periods begins after each scan line is complete [*the first of the two aforementioned row-by-row driving cycles wherein Rows #3-#32 are "completely" supplied with V_R*] and ends prior to scanning the following scan line [*wherein during a third row-by-row driving cycle, Row #4 (which physically follows row #3 or row #5, depending on one's perspective) is scanned*]; and

scanning the following scan line [*Fig. 3; Row #4*] immediately after the reset period in which the first reset voltage is applied to all of said scan lines and the second reset voltage is applied to all of said drive lines (*see Column 5, Line 46 - Column 8, Line 53*).

Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

By such reasoning, rejection of the claims is deemed necessary, proper, and thereby maintained at this time.

Conclusion

44. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Piziali whose telephone number is (571) 272-7678. The examiner can normally be reached on Monday - Friday (6:30AM - 3PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chanh Nguyen can be reached on (571) 272-7772. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jeff Piziali/
Primary Examiner, Art Unit 2629
5 December 2008